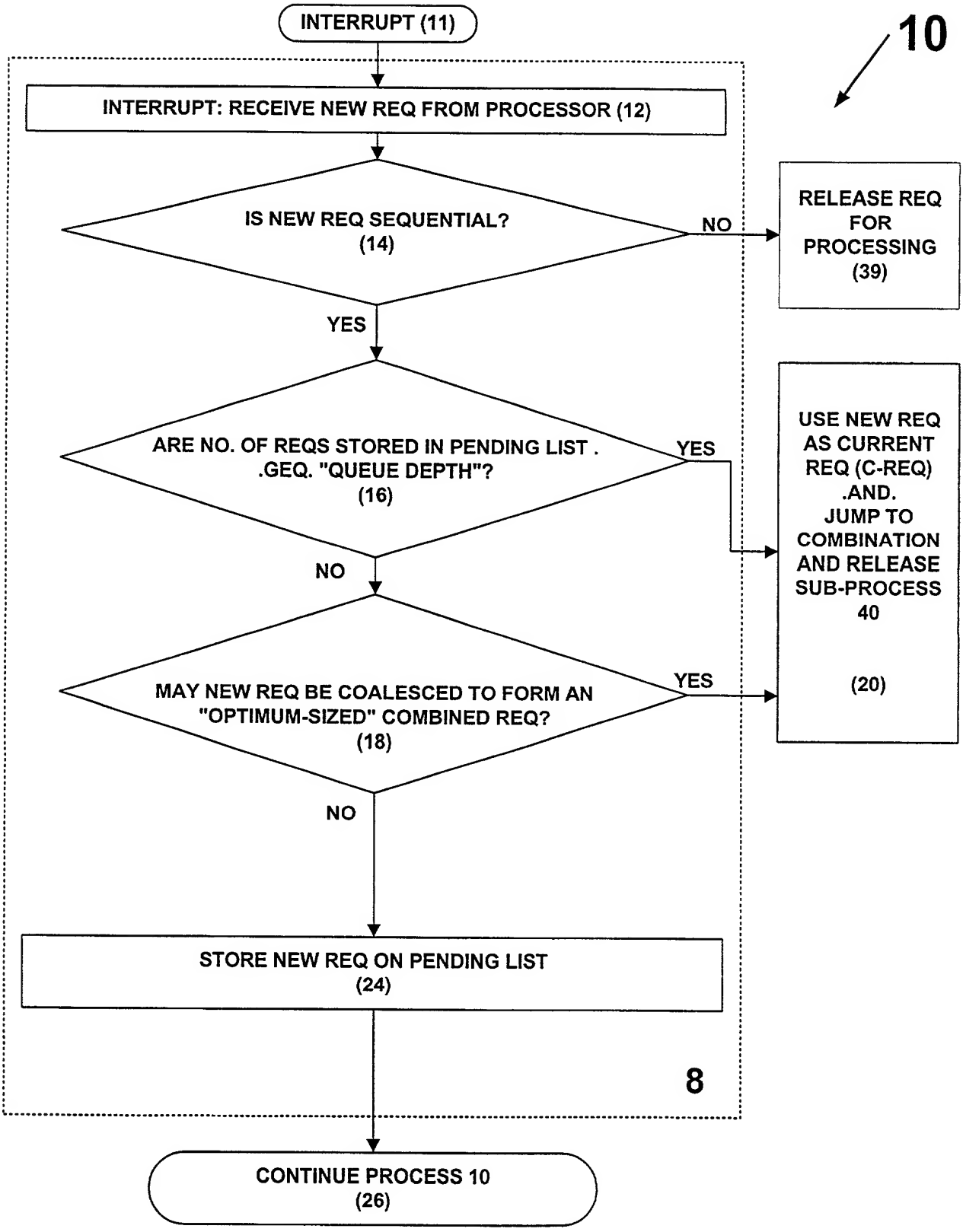
10
INTERRUPT (11)
INTERRUPT: RECEIVE NEW REQ FROM PROCESSOR (12)
IS NEW REQ SEQUENTIAL? (14)
NO
RELEASE REQ FOR PROCESSING (39)
YES
ARE NO. OF REQS STORED IN PENDING LIST . .GEQ. "QUEUE DEPTH"? (16)
YES
USE NEW REQ AS CURRENT REQ (C-REQ) .AND. JUMP TO COMBINATION AND RELEASE SUB-PROCESS 40 (20)
NO
MAY NEW REQ BE COALESCED TO FORM AN "OPTIMUM-SIZED" COMBINED REQ? (18)
YES
NO
STORE NEW REQ ON PENDING LIST (24)
8
CONTINUE PROCESS 10 (26)

FIGURE 1a

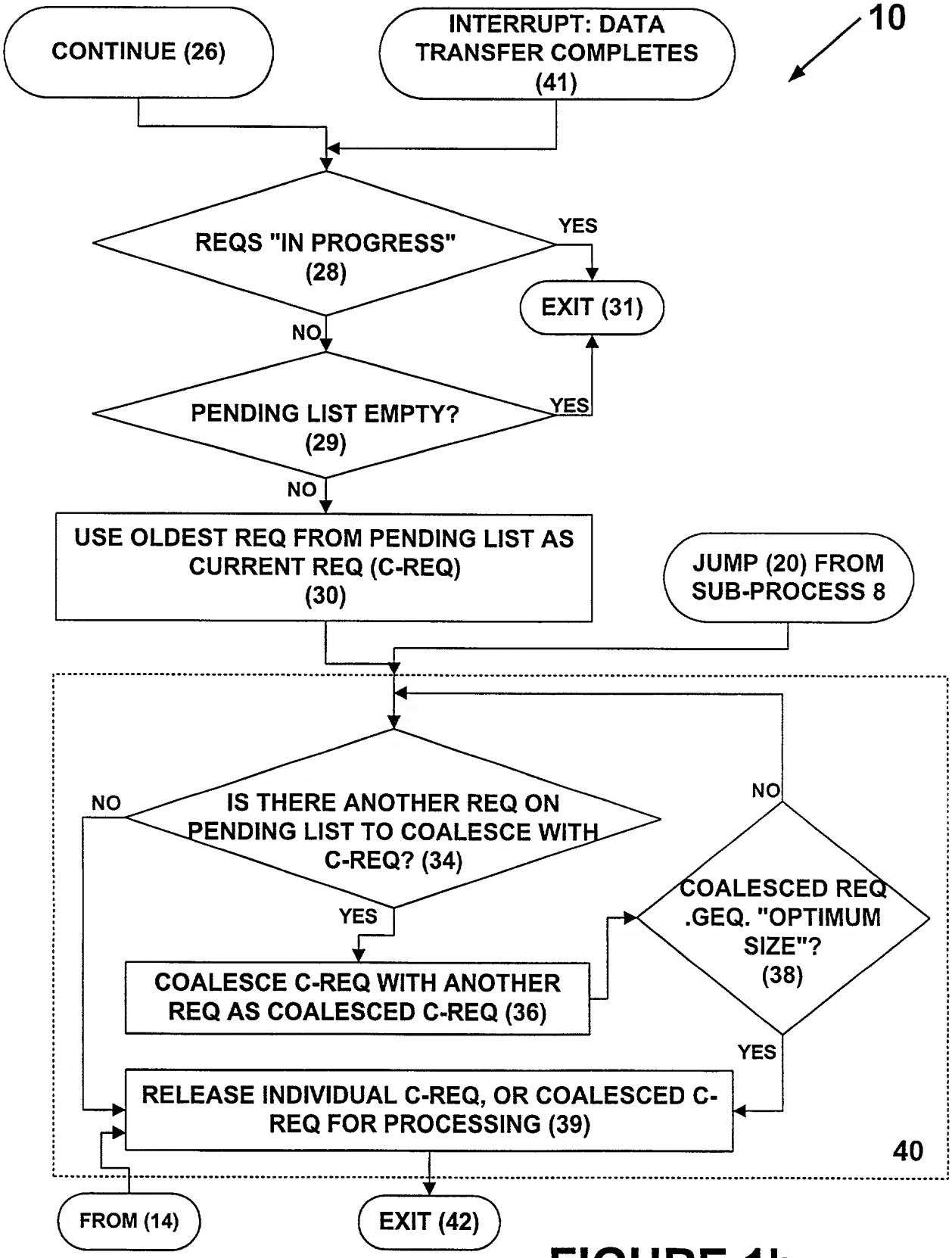
10
CONTINUE (26)
INTERRUPT: DATA TRANSFER COMPLETES (41)
REQS "IN PROGRESS" (28)
YES
EXIT (31)
NO
PENDING LIST EMPTY? (29)
YES
NO
USE OLDEST REQ FROM PENDING LIST AS CURRENT REQ (C-REQ) (30)
JUMP (20) FROM SUB-PROCESS 8
NO
IS THERE ANOTHER REQ ON PENDING LIST TO COALESCE WITH C-REQ? (34)
YES
COALESCE C-REQ WITH ANOTHER REQ AS COALESCED C-REQ (36)
NO
COALESCED REQ .GEQ. "OPTIMUM SIZE"? (38)
YES
RELEASE INDIVIDUAL C-REQ, OR COALESCED C-REQ FOR PROCESSING (39)
40
FROM (14)
EXIT (42)

FIGURE 1b

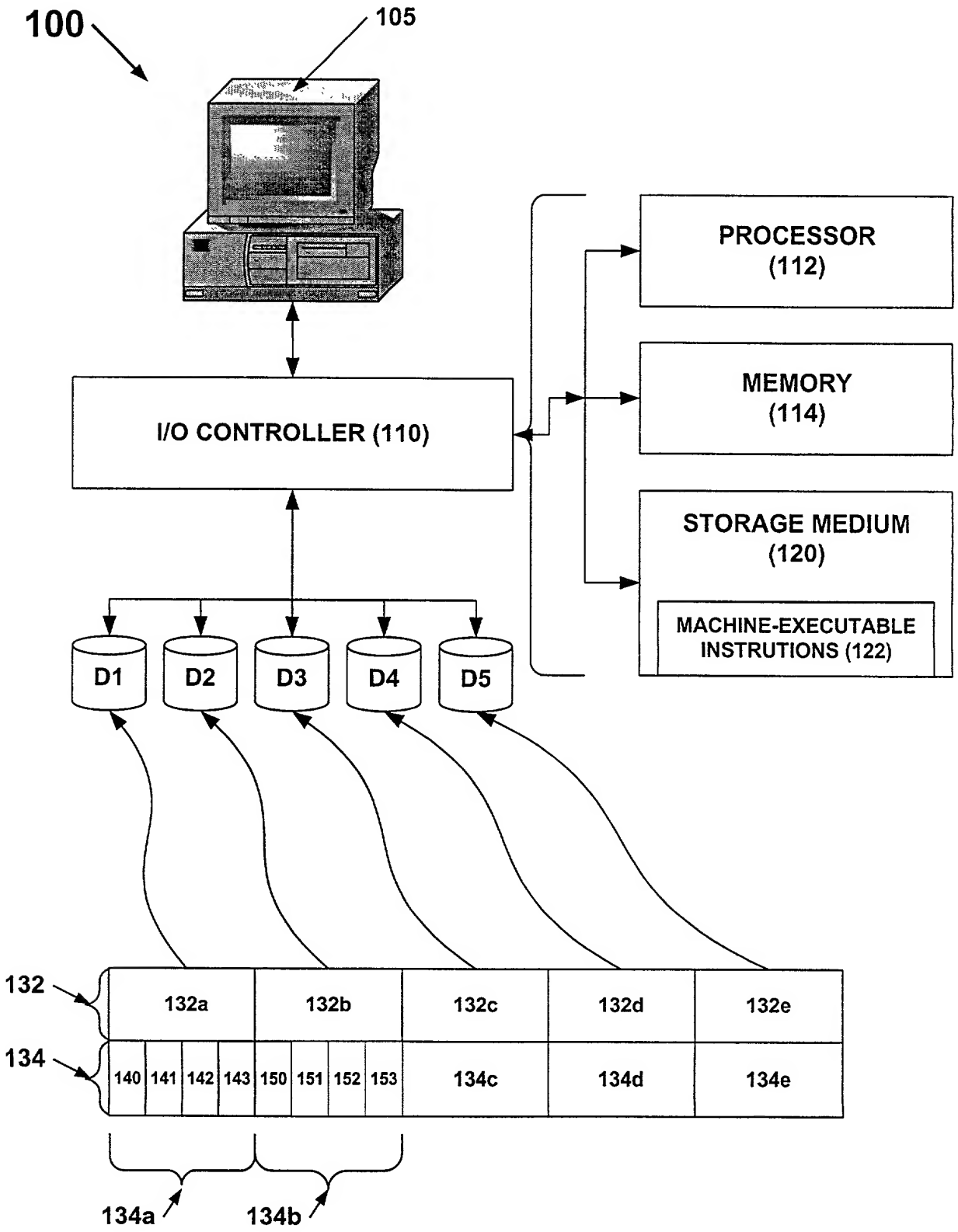
100
105
PROCESSOR (112)
MEMORY (114)
I/O CONTROLLER (110)
STORAGE MEDIUM (120)
MACHINE-EXECUTABLE INSTRUTIONS (122)
D1
D2
D3
D4
D5
132
132a
132b
132c
132d
132e
134
140
141
142
143
150
151
152
153
134c
134d
134e
134a
134b

FIGURE 2

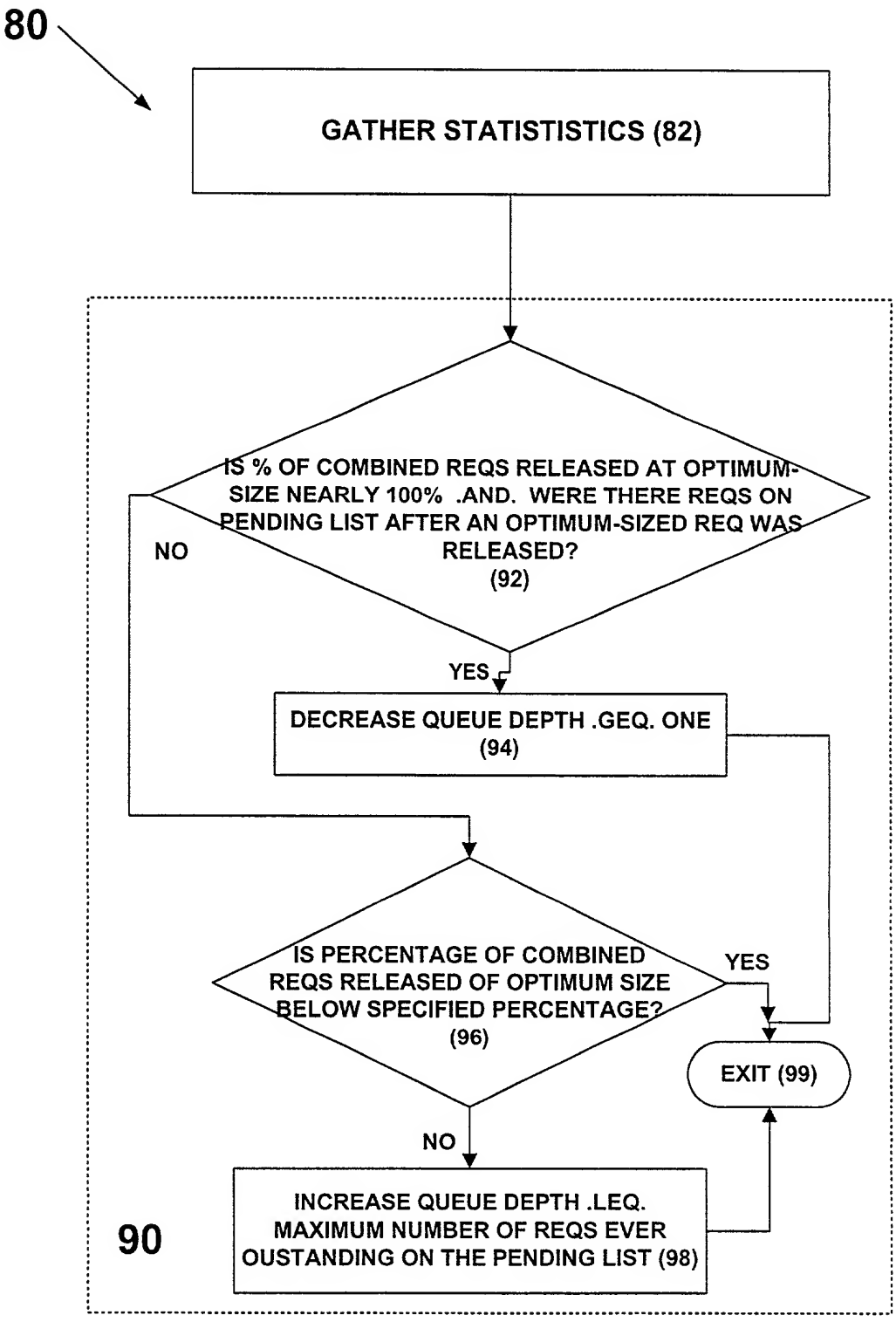
80
GATHER STATISTICS (82)
IS % OF COMBINED REQS RELEASED AT OPTIMUM-SIZE NEARLY 100% .AND. WERE THERE REQS ON PENDING LIST AFTER AN OPTIMUM-SIZED REQ WAS RELEASED? (92)
NO
YES
DECREASE QUEUE DEPTH .GEQ. ONE (94)
IS PERCENTAGE OF COMBINED REQS RELEASED OF OPTIMUM SIZE BELOW SPECIFIED PERCENTAGE? (96)
YES
EXIT (99)
NO
INCREASE QUEUE DEPTH .LEQ. MAXIMUM NUMBER OF REQS EVER OUSTANDING ON THE PENDING LIST (98)
90

FIGURE 3